

ungrooved posterior teeth, and a considerably greater number of teeth than any other of the genus. It is possible that *Tantilla brevis* (which I have not seen) has similar dentition, but I think no other can be linked with these.

Because of the differences exhibited by these two species, it appears that they are best segregated from *Tantilla*. They are placed in

Tantillita gen. nov.

Diagnosis.—Hypapophyses absent in posterior part of vertebral column; scales in 15 rows, smooth, without apical pits; scales of head normal, except temporals 1+1, and no loreal; teeth on maxilla number 22 to 25, about equal in size, posterior teeth not at all or but slightly enlarged, not grooved; head somewhat flattened; size small; tail relatively short.

Genotype.—*Tantilla lintoni* Smith, Proc. Biol. Soc. Washington 53: 61–62, fig. 1. 1940. (Piedras Negras, Guatemala).

Referred species.—*Tantilla brevissima* Taylor, Trans. Kansas Acad. Sci. 39: 344–345, fig. 4. 1936 (1937) (Tonalá, Chiapas).

HERPETOLOGY.—*Notes on snakes of the genus Conophis*.¹ HOBART M. SMITH. (Communicated by HERBERT FRIEDMANN.)

The identification of a specimen related to *Conophis lineatus* from Chiapas, Mexico, has led to a review of available material of that genus from Central America and Mexico.

While all the members of the genus are pretty closely related, two major divisions are discernible. One contains *vittatus* (with its subspecies *viduus*) and is characterized by (1) the presence normally of seven supralabials and (2) the absence of pigment on the supralabial border, chin, ventrals, and first scale row. The second major division contains *lineatus* and *pulcher* and is characterized by (1) the presence normally of eight supralabials and (2) pigmentation on the supralabial border, chin, ends of ventrals (usually), and on the first scale row.

The subdivisions within the second division are, of course, specific, as there are only two species. One species (*pulcher*, with its subspecies *plagosus*) is characterized by (1) a well-defined color pattern, with 10 stripes at least posteriorly, the median pair on the paravertebral rows; and (2) presence of a dark stripe (actually the edge of the dorso-lateral stripe) on (including) the second scale row on all the body (except neck). The second species (*lineatus*) is characterized by (1) less well defined stripes, some or all tending to become obsolete; no stripes or indication of stripes on the paravertebral rows on any part of the body; pattern essentially of six stripes; and (2) the second scale

¹ This study was completed and part of the material utilized was collected during tenure of a Walter Rathbone Bacon Traveling Scholarship of the Smithsonian Institution. Received November 13, 1940.

row free of stripes at least anteriorly, at no place involved by dorso-lateral stripes. The following key contrasts certain differences between the various forms of the genus:

KEY TO RACES OF CONOPHIS

1. First scale row not pigmented on any part of body; chin and labial border white; usually seven supralabials.2
 First scale row pigmented on part or all of body; chin and labial border pigmented; usually eight supralabials.3
2. Four dark stripes posteriorly, the median pair separated by one and two half scale rows. *vittatus vittatus*
 Three dark stripes posteriorly; if a light median area is present in median dark stripe, it is less than one scale row in width. *vittatus viduus*
3. Dorsolateral dark stripe *which passes through eye* involving upper half of second scale row; a dark stripe on paravertebral scale rows, at least posteriorly.4
 Dorsolateral dark stripe which passes through eye becoming indistinct on body, or restricted to fourth or third and fourth rows, not involving second row; no stripes on paravertebral rows on any part of body.5
4. Ends of ventrals with some indication of spots on some part of body; paravertebral stripes continuous posteriorly; other primary stripes not spotted in appearance; markings on chin and labial borders distinct. *pulcher pulcher*
 Ventrals completely unpigmented; paravertebral stripes not continuous on any part of body; other primary stripes spotted in appearance; markings on chin and labial borders dim. *pulcher plagosus*
5. Stripes disappearing on nape, not or but faintly visible posteriorly. *lineatus concolor*
 Stripes visible throughout length of body.6
6. Dorsolateral stripes becoming extremely narrow on nape, restricted to fourth scale row. *lineatus lineatus*
 Dorsolateral stripes involving adjacent portions of the third and fourth scale rows. *lineatus similis*

The various patterns of *pulcher* and *lineatus* are obviously derived from one similar to that of *viduus*, which I believe is nearest the ancestral type of the genus. It is rather difficult to discern whether *pulcher* or *lineatus* is the more primitive, but I have concluded that the former probably is, since the pattern of the latter seems to be reduction, not from the *viduus* type, but from the *pulcher* type. Reduction of the latter pattern type in *lineatus* took place in three directions, *concolor* becoming the most strongly modified, *l. lineatus* and *l. similis* changing the least. In fact, although the latter two are separated from each other by *l. concolor* and *p. pulcher*, they resemble each other closely. I believe these two might be given as examples of parallel evolution: both (likewise *concolor*) started on the same trend—toward loss of the stripes by both vertical and longitudinal breaking; and the two have now reached nearly the same stage in that process, although

widely separated geographically. Why *concolor* should have proceeded along the same trend so much more rapidly than either *l. lineatus* or *l. similis* is not readily obvious. The most apparent possibility is that it was isolated from the other stock during some geologic period, while the evolution of the other two was retarded through influence of the ancient *pulcher* stock, which apparently has no evolutionary trend toward loss of stripes.

Conophis vittatus vittatus Peters

Conophis vittatus Peters, Monatsb. Akad. Wiss. Berlin, 1860: 519-520, pl., fig. 3 (type locality not known).—Smith, Field Mus. Nat. Hist. Zool. Ser. 24: 31. 1939 (type locality restricted to Acapulco, Guerrero).

Conophis sumichrasti sumichrasti Cope (part), Journ. Acad. Nat. Sci. Philadelphia, (2), 8: 137. 1876 (type locality, Tehuantepec and Guadalajara).—Smith, Field Mus. Nat. Hist. Zool. Ser. 24: 31. 1939 (type locality erroneously restricted to Tehuantepec).

Diagnosis.—Chin and labial borders white, not pigmented; usually seven supralabials; first scale row not pigmented; four dark stripes on posterior part of body, the lateral stripes covering less than two scale rows, the median pair separated by a light middorsal area one and two half scale rows wide.

Distribution.—Guerrero south into Oaxaca avoiding areas of considerable elevation.

Specimens examined.—Five, U. S. N. M. no. 29123, Guadalajara, Jalisco; U. S. N. M. nos. 31394-7, Colima.

Remarks.—*Conophis sumichrasti sumichrasti* was described on the basis of one specimen from "the western part of Tehuantepec" (U. S. N. M. no. 30258) and another from Guadalajara, Jalisco (U. S. N. M. no. 29123). The type locality was restricted to Tehuantepec by me (*loc. cit.*), but this can not stand, for Cope's very brief diagnosis does not apply to the Tehuantepec cotype, but rather to the Guadalajara cotype. Cope says "second row not covered by lateral band; dorsal bands distinct" for *sumichrasti*. In the Tehuantepec specimen the lateral band does involve the second scale row, and the dorsal bands are scarcely distinct (certainly not as much so as in the Guadalajara specimen, which is typical *vittatus*). Accordingly I designate the Guadalajara specimen, to which Cope's diagnosis of *sumichrasti* refers, as lectotype.

The Tehuantepec cotype of *sumichrasti* is not exactly typical of *viduus* but is much nearer it than to typical *vittatus*, if I correctly interpret the relative importance of difference between the two subspecies. The differences appear to be two, both in pattern: (1) In *viduus* the median dark stripe is single, covering about three and two half scale rows; if divided, the median light line is faint and narrow, of less than one scale width; in typical *vittatus* the median dark stripe is double, with the middorsal white area covering about one and two half scale rows; in this the whole median stripe (including the middorsal white stripe and the adjacent dark stripes on each side) covers

five and two half scale rows, while in *viduus* it covers a maximum of three and two half (or three-quarters) scale rows. (2) In *viduus* the lateral stripe is broader, anteriorly covering all of two, and parts of the adjacent, scale rows; in typical *vittatus* it covers less than two whole scale rows.

The cotype of *sumichrasti* agrees more nearly with typical *vittatus* in the character of the lateral stripe, which anteriorly covers a little less than two scale rows. However, the median stripe is not widely divided as in typical *vittatus* but agrees in condition with that shown by three other specimens from Tehuantepec, secured by me, in the National Museum. In these a narrow light stripe, beginning anteriorly shortly behind the neck, or first appearing nearly as far back as the middle of the body, is present on the middorsal scale row, and disappears at the base of the tail. The light stripe is less than a scale row wide. In all these the entire median stripe is three and two half scale rows wide, as in *viduus* with a uniform middorsal stripe.

I believe that the character of the middorsal stripe is of greater significance than that of the lateral and accordingly refer the cotype of *sumichrasti* to the synonymy of *viduus*. However, the intermediate condition shown by the cotype and the other specimens mentioned above rather strongly indicates that there may be intergradation between these two. The fact that the cotype of *sumichrasti*, which presumably comes from farther west (and nearer the known range of typical *vittatus*) than my specimens, approaches more closely to the characters of *vittatus* than specimens from near Tehuantepec, lends support to the belief that the two forms intergrade.

The identity of the type of *vittatus* is fortunately fixed by Bocourt, who published excellent illustrations of it (Mission Sci. Mex., Rept., pl. 38, fig. 7. 1886). The type is not from Tehuantepec, however, as inferred by Bocourt.

It is apparent that Cope considered the name of *vittatus* applicable to quite a different species than Peters described, as indicated in his check list (U. S. Nat. Mus. Bull. 32: 76. 1887), in which he lists a specimen from Guatemala, collected by Dow. This is an intergrade between *concolor* and apparently *lineatus*. If this is what Cope interpreted as *vittatus*, it is apparent why he described *sumichrasti*.

Conophis vittatus viduus Cope

Conophis sumichrasti viduus Cope, Journ. Acad. Nat. Sci. Philadelphia (2)

8: 137. 1876 (type, U. S. N. M. no. 30259); Tehuantepec.

Conophis sumichrasti sumichrasti Cope (part), *loc. cit.* (the Tehuantepec specimen).

Diagnosis.—Chin and labial borders white, not pigmented; usually seven supralabials; first scale row not pigmented; three dark stripes, the lateral more than the equivalent of two full scale rows in width, the median involving three and two half scale rows; sometimes a narrow light stripe, less than one scale row in width, extending down part of vertebral scale row, but in this case the entire median stripe is no wider than in other specimens.

Distribution.—Area about Tehuantepec, Oaxaca.

Specimens examined.—Nine, U. S. N. M. nos. 30258-9, 109709-14; one in the EHT-HMS collection.

Remarks.—See remarks under *vittatus vittatus*. The type of *viduus* (U. S. N. M. no. 30259) has been examined and is typical of the form here defined under that name. There is no evidence in it of a light streak along the vertebral scale row.

Conophis pulcher pulcher Cope

Conophis pulcher Cope, Proc. Acad. Nat. Sci. Philadelphia, 1868: 308 (Petén, Guatemala; three cotypes, U. S. N. M. nos. 6751, 6803).—Bocourt, Mission Sci. Mex., Rept., livr. 10: pp. 645–647, pl. 38, fig. 6 (a good illustration). 1886.

Diagnosis.—Chin and labial borders pigmented; usually eight supralabials; a dark stripe along first scale row, at least posteriorly; lateral dark stripe (i.e., the continuation of the ocular stripe) involving median half of second scale row, all of third and outer half of fourth, over all of body; a secondary dark stripe on paravertebral scale rows (except on extreme anterior part of body), broken anteriorly (spotted), continuous posteriorly and enclosing a light area one and two half scale rows wide; ends of ventrals spotted or slightly pigmented on some part of body.

Distribution.—Known only from “Petén.”

Specimens examined.—Three, from Petén, Guatemala (U. S. N. M. nos. 6751, 6803).

Remarks.—I have seen no intergrades between this and *lineatus*. The rather sharp difference between these two in position of the lateral stripe and the presence in *pulcher* of secondary paravertebral stripes leads me to believe that intergrades do not occur.

In one specimen of *pulcher* the lateral stripes are solid throughout their length; in two others they are light medially, with regular black edges.

The subspecies *plagosus* is very similar, having the same differences from *lineatus* as *pulcher*.

Conophis pulcher plagosus subsp. nov.

Conophis pulcher Cope (part), U. S. Nat. Mus. Bull. 32: 77. 1887 (a specimen mentioned from “Chiapas,” collected by Montes de Oca).

Holotype.—U. S. N. M. no. 109707, female, from Tonolá, Chiapas, collected by Hobart M. Smith.

Diagnosis.—Chin and labial borders pigmented, but dimly; usually eight supralabials (?); a dark stripe along first scale row, at least posteriorly; lateral dark stripe (i.e., the continuation of the stripe through eye) involving median half of second scale row, all of third and outer half of fourth, over all of body; a series of spots on scales of paravertebral rows, beginning at middle of body, extending to base of tail; spots elongate toward posterior end of body, but not forming a continuous line; ventrals completely unspotted; all lines on body somewhat spotted in appearance.

Scutellation of type.—Ventrals 169; caudals 67; scale rows 19–19–17; supralabials 7–8; infralabials 9; one preocular; two postoculars, two temporals.

Remarks.—This form is differentiated from *pulcher pulcher* by having (1) the ventrals completely unspotted; (2) secondary lines on paravertebral rows not continuous posteriorly; (3) all other lines on body also somewhat

spotted in appearance; (4) dusky markings on chin and supralabial border very dim (less distinct than in *p. pulcher* or any member of the *lineatus* series). Very probably this does not now intergrade with *p. pulcher*, from which it is pretty well isolated. However, its essential characters definitely link it with *p. pulcher*, and the differences between it and the latter are no greater than those between *vittatus* and *viduus*, or between *concolor* and *similis* or *lineatus*.

***Conophis lineatus lineatus* (Duméril and Bibron)**

Tomodon lineatus Duméril and Bibron, Erp. Gen. 7: 936-938, pl. 73. 1854 (Mexico).—Bocourt, Mission Sci. Mex., Rept., livr. 10: 643, pl. 38, fig. 5 (an excellent illustration of one of the types). 1886.

Diagnosis.—Chin and labial borders pigmented; usually eight supralabials; a dark stripe along first scale row, at least posteriorly; lateral dark stripe (i.e., the continuations of the stripe through eye) very narrow posterior to nape, extending along fourth scale row; posteriorly a stripe along third and eighth (farther posteriorly the seventh) scale rows; a narrow dark stripe along sixth scale row, continuous throughout length of body; another narrow dark stripe, more spotted anteriorly, on first scale row; all stripes at least slightly spotted in appearance; ends of ventrals spotted in at least some part of body.

Distribution.—The only specimen known with definite locality is from Paso del Macho, Veracruz.

Specimen examined.—One, from Paso del Macho, Veracruz (U. S. N. M. no. 109708).

Remarks.—The character of the lateral stripes easily distinguishes this from *l. similis*; a second prominent difference is the presence of a secondary line posteriorly along the seventh scale row.

The identity of the types of *lineatus* is none too well fixed, in spite of Bocourt's excellent illustration of one of them. I have concluded that the name is based upon the Mexican form rather than the Costa Rican, for the following reasons: (1) Types said to be from Mexico; (2) no markings on third scale row shown on types (dorsolateral stripes involve most of third scale row in *similis*; the condition in the types, even to the small spots on the scales of the second row, is matched by the Mexican specimen available at least on one part of body); (3) markings on eighth scale row (beginning of secondary stripe) shown for types, as in the Mexican specimen (*similis* shows no such markings).

***Conophis lineatus concolor* Cope**

Conophis concolor Cope, Proc. Acad. Nat. Sci. Philadelphia, 1866: 318 (Yucatán; two cotypes, U. S. N. M. no. 12368).

Diagnosis.—Chin and labial border pigmented; usually eight supralabials; no stripes evident on body, dorsal surface gray, ventral surface white, the dorsal color extending onto first scale row; three stripes on head, the median poorly defined, all disappearing on neck.

Distribution.—Peninsula of Yucatán and area at its base, east through northern Honduras.

Specimens examined.—Five, including the cotypes and U. S. N. M. no. 4941, Petén (?), Guatemala; U. S. N. M. no. 20271, Patuca, Honduras; and U. S. N. M. no. 46395, Chichen Itza, Yucatán.

Remarks.—Several specimens, all typical, are known from the Peninsula of Yucatán. In addition, a perfectly typical example from Patuca, Honduras, is present in the National Museum (no. 20271).

An intergrade between *concolor* and probably *lineatus* is in the National Museum (no. 4941). The catalog states that this is from El Salvador, collected by J. M. Dow. However, an old paper label, on which is written "*Conophis vittatus*, Petén, J. M. Dow," is in the bottle, and accordingly I think this is the specimen, from that locality, mentioned by Cope in 1887 (U. S. Nat. Mus. Bull. 32: 76) under the name *vittatus*. It is certain, moreover, that this specimen is an example of what Cope believed *vittatus* to be, for he states in 1876 (Journ. Acad. Nat. Sci. Philadelphia (2), 8: 137) that this species has the "body without bands, but faint traces of them on first, third and seventh rows of scales." This certainly applies to the specimen in question.

In this intergrade the median dark stripe on the head is well defined, as are the lateral head stripes; these disappear on the nape. A dark stripe extends the full length of the body on the first scale row; anteriorly and in the middle of the body it is dim, poorly defined. A fine, dotted black line, beginning a little anterior to the middle of the body, extends along the fourth scale row to the position of scale row drop; from this point to the anus it is continued on the third scale row; in the extreme posterior part of body a similar line extends along the fourth scale row to anus. At about the middle of the body a fine, dotted dark line becomes evident on the seventh scale row; it becomes more distinct posteriorly, becoming almost continuous near base of tail; posterior to the position of scale row drop it follows the sixth scale row.

***Conophis lineatus similis* subsp. nov.**

Conophis lineatus Cope (*nec* Duméril and Bibron), U. S. Nat. Mus. Bull. 32: 77. 1887 (San José, Costa Rica; Nicaragua).

Holotype.—U. S. N. M. no. 79963, female, Managua, Nicaragua, collected by Lt. H. C. Kellers.

Paratypes.—Three, one a topotype (U. S. N. M. no. 79964); one, in very poor condition, from "Nicaragua" (U. S. N. M. no. 25237); and one from Esparta, Costa Rica (U. S. N. M. no. 37758).

Diagnosis.—Chin and labial borders heavily pigmented; usually eight supralabials; a dark stripe along first scale row; lateral dark stripe (i.e., that which passes through eye) restricted to the third and fourth scale rows throughout the length of the body, solid (without a broad light median area between two dark edges); a dark stripe on seventh (sixth posteriorly) scale row; no secondary dark stripes on either paravertebral rows or those adjacent to them laterally; second scale row white anteriorly, posteriorly with a dotted secondary line; ends of ventrals pigmented in some part of body.

Scutellation of holotype.—Ventrals 170; anal divided; caudals 69; scale

rows 19-19-17; supralabials 8-8; infralabials 10-11; one preocular; two post-oculars; temporals 2+2. Total length 553 mm; tail 121 mm.

Variations.—The ventrals and caudals, respectively, of the paratypes, in the order listed above, are: 169, 67 (♀); 174, 69 (♀) 170, 64 (♂). Scale rows 19-19-17 in all; supralabials 7-8 in one, 8-8 in others; infralabials 8-9 in one, 9-9 in one, 10-11 in one; oculars and temporals as in type.

The topotypic paratype has the same pattern as the type. The stripes on the seventh scale rows are composed of small spots; all the stripes on the body give a spotted effect, although all except those on the seventh scale rows are continuous at least posteriorly. The chin and labial markings are very prominent, as are the spots on the ends of the ventrals.

The paratype from "Nicaragua" is very similar in coloration, except that the stripes on the seventh scale rows are continuous.

The paratype from Esparta, Costa Rica, does not show such a strong spotted effect as the others; the stripes on the seventh scale rows are broader; and the area between these two stripes is generally suffused with darker.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

THE ACADEMY

365TH MEETING OF THE BOARD OF MANAGERS

The 365th meeting of the Board of Managers was held in the Board Room of the Cosmos Club on Friday, January 10, 1941. President CRITTENDEN called the meeting to order at 8:02 P.M., with 16 persons present, as follows: E. C. CRITTENDEN, F. D. ROSSINI, H. S. RAPPLEYE, G. STEINER, A. T. McPHERSON, A. H. CLARK, W. A. DAYTON, H. L. CURTIS, W. RAMBERG, E. W. PRICE, C. L. GAZIN, W. W. DIEHL, and by invitation J. H. KEMPTON, R. J. SEEGER, and O. H. GISH.

The minutes of the 364th meeting were read and approved.

President CRITTENDEN announced the appointment of the most recent past Corresponding Secretary, N. R. SMITH, to the position of Archivist of the Academy for a term of 3 years.

C. L. GARNER, chairman of the Committee on Meetings, reported that negotiations were under way to have WARREN KELCHNER, chief of the Division of International Conferences of the U. S. Department of State, address the Academy at its meeting in April, with the other meetings as previously reported. Chairman GARNER also reported that his Committee had an unexpended balance of \$29.20 from its budget allotment for 1940.

G. STEINER, chairman of the Committee on Membership, presented nominations for membership for 8 persons (5 resident and 3 nonresident).

The Board considered individually and duly elected to membership the 11 persons (9 resident and 2 nonresident) whose nominations were presented to the Board on December 6, 1940.

The Committee to Consider the Printing Contract for the Journal, F. G. BRICKWEDDE, chairman, presented its final report, recommending that the present contract be continued. In an appendix to its report, the Chairman presented some information concerning the possibility of saving several hundred dollars a year in the cost of publishing the Journal through the adoption of a 2-column format and 2 point smaller type, at the same time maintaining the present standards of quality and workmanship and the same average number of words to the issue. It was moved and carried that the Committee's